



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,823	12/24/2003	James E. Denton	740270-2896	1148
22204	7590	03/21/2005	EXAMINER	
NIXON PEABODY, LLP 401 9TH STREET, NW SUITE 900 WASHINGTON, DC 20004-2128			LQ, WEILUN	
			ART UNIT	PAPER NUMBER
			3747	

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/743,823

Applicant(s)

DENTON ET AL.

Examiner

Weilun Lo

Art Unit

3747

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) 3,7-9,15,18,22-24,29-40 and 43-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,10-14,16,17,19-21,25-28,41 and 42 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/26/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

1. Figs. 1A-1D;
2. Figs. 2A-2C;
3. Figs. 3A-3D;
4. Figs. 4A-4D;
5. Fig. 5; and
6. Fig. 6.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 2, 5, 6, 10-13, 41, and 42 appear to be generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims

are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. During a telephone conversation with Mr. Daniel Song on 3/16/05 a provisional election was made without traverse to prosecute the invention of group 1, claims 4, 14, 16, 17, 19-21, 25-28. Affirmation of this election must be made by applicant in replying to this Office action. Claims 3, 7-9, 15, 18, 22-24, 29-40, and 43-48 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected species.

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

4. The drawings are objected to because in Fig. 1D the reference "24" pointing to the "body" (upper right corner of Fig.) should be corrected to -- 14 --. Corrected drawing

sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 4, 5, 14, 16, 17, 19, 20, and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Boecking (WO 01/25617, note corresponding US 6520155).

Boecking shows all the claimed elements including a common rail having a body 1, a first passage 2 including a groove X2, and a second passage 35 (note Fig. 2).

7. Claims 1, 2, 4, 5, 6, 14, 16, 17, 19, 20, 21, 41, and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Boecking (WO 01/25615, note corresponding US 6637407). Boecking shows all the claimed elements including a common rail having a body 1, a first passage 11 including a groove 12, and a second passage 13. Regarding claims 4 and 19, note Fig. 6 where the first passage 12 including a groove 11 with a larger diameter than the first passage.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 3747

10. Claims 6, 21, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boecking (WO 01/25617, note corresponding US 6520155) in view of Boecking (WO 01/25615, note corresponding US 6637407) or Jung et al. (US 6223726).

Boecking ('617) shows substantially all of the claimed elements, however, does not specifically show the second passage being transversely offset in the groove so that the axis of the second passage does not intersect the longitudinal axis of the first passage. Boecking ('615) teach a common rail that has a second passage 13 being transversely offset in the groove 12 so that the axis of the second passage 13 does not intersect the longitudinal axis of the first passage 11. Jung et al. also teach a common rail that has a second passage 11 being transversely offset so that the axis of the second passage 11 does not intersect the longitudinal axis of the first passage 10 (note col. 2, l. 9-24 and Figs.). It would have been obvious at the time of the invention for one of ordinary skill in the art to have made the common rail of Boecking ('617) to have the second passage 35 being transversely offset in the groove X2 so that the axis of the second passage 35 does not intersect the longitudinal axis of the first passage 2 in order to further reduce the vulnerabilities of the common rail to high pressure stresses and premature failure, particularly at the intersections between the connection openings and the base body interior (Boecking '615 - col. 1, l. 45-50).

11. Claims 10, 11, 13, 25, 26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boecking (either one of WO 01/25617 or WO 01/25615) in view of either Yasusaka et al. (JP 2002-241922) or Ishikawa et al. (JP 07-286256). Boecking shows a common rail substantially as claimed, however does not specifically mention

Art Unit: 3747

the material composition of the rail. Yasusaka et al. and Ishikawa et al. separately teach a steel alloy having Cr, Mo, and V by weight in the claimed range and being gas nitrided to yield excellent fatigue strength. It would have been obvious at the time of the invention for one of ordinary skill in the art to have made the common rails of Boecking to include a steel alloy having Cr, Mo, and V as claimed and being gas nitrided as taught by either Yasusaka et al. or Ishikawa et al. in order to provide a common rail body that has excellent fatigue strength and to avoid premature failure.

12. Claims 12 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boecking (either one of WO 01/25617 or WO 01/25615) in view of either Yasusaka et al. (JP 2002-241922) or Ishikawa et al. (JP 07-286256) as applied to claims 10, 11, 13, 25, 26, and 28, and further in view of Usui et al. (US 2005/0005910). Boecking and Yasusaka et al. or Ishikawa et al. show a common rail substantially as claimed, however does not specifically mention the alloy steel being heat treated to provide a hardened martensitic core. Usui et al. are relied upon to teach a common rail being heat treated to induce a martensitic core (note col. 3, paragraph 22). It would have been obvious at the time of the invention for one of ordinary skill in the art to have made the common rail of Boecking and Yasusaka et al. or Ishikawa et al. being subjected to heat treatment to induce a hardened martensitic core in order to provide a rail body that has excellent hardness and tensile strength and to avoid premature failure.


Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note Cavanagh (US 5983863) shows a fuel system with an accumulator/rail housing 34 subjected to gas nitriding (col. 17, l. 60-65).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Weilun Lo whose telephone number is (571) 272-4847. The examiner can normally be reached on 8:30AM TO 7:00PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on (571) 272-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Weilun Lo
Primary Examiner
Art Unit 3747